

SEQUENCE LISTING

(1) GENERAL INFORMATION:

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(F) POSTAL CODE (ZIP): B5 6QQ

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(B) STREET: C/O The Forensic Science Service, Priory  
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(F) POSTAL CODE (ZIP): B5 6QQ

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(C) CITY: Birmingham  
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(ii) TITLE OF INVENTION: Improvements in and relating to  
forensic identification

(iii) NUMBER OF SEQUENCES: 36

(iv) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Floppy disk  
(B) COMPUTER: IBM PC compatible  
(C) OPERATING SYSTEM: PC-DOS/MS-DOS  
(D) SOFTWARE: PatentIn Release #1.0, Version #1.30

(EPO)

(vi) PRIOR APPLICATION DATA:

(A) APPLICATION NUMBER: GB 9713597.4  
(B) FILING DATE: 28-JUN-1997

(2) INFORMATION FOR SEQ ID NO: 1:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 40 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

TCTATCTGTC TATCTGTCTG TCTGTCTGTC TATCTATCTA  
40

(2) INFORMATION FOR SEQ ID NO: 2:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 48 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

TCTATCTGTC TGTCTGTCTG TCTATCTATC TATCTATCTA TCTATCTA  
48

(2) INFORMATION FOR SEQ ID NO: 3:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 52 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

TCTATCTATC TGTCTGTCTG TCTGTCTATC TATCTATCCA TCTATCTATC TA  
52

(2) INFORMATION FOR SEQ ID NO: 4:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 55 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

TCATTCATTC ATTCATCATT CATTCATTCA TTCATTCATT CATTCATTTCG TTCAT  
55

(2) INFORMATION FOR SEQ ID NO: 5:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 32 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:

TCTATCTATC TATCTATCTA TCTATCTATC TA  
32

(2) INFORMATION FOR SEQ ID NO: 6:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 76 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Homo sapiens
  - (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:

TCTATCTATC TGTCTATCTA TCTATCTATC TATCTATCTA TCTATCTATC TATCTATCTA  
60

TCTATCTATC TATCTA  
76

(2) INFORMATION FOR SEQ ID NO: 7:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 65 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Homo sapiens
  - (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:

TTTCTTTTCTT TCTTTTTTCT CTTTCTTTCT TTCTTTCTTT TCTTTCTTTC TTTCTCCTTC  
60

CTTCC  
65

(2) INFORMATION FOR SEQ ID NO: 8:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 108 base pairs
  - (B) TYPE: nucleic acid

- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Homo sapiens
  - (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:

TTTCTTTCTT TCTTTTTTCT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT  
60

CTTTCTTTCT TTCCTTCTTT CTTTCTTTCT TTCTTTCTCC TTCCTTCC  
108

(2) INFORMATION FOR SEQ ID NO: 9:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 120 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Homo sapiens
  - (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:

TTTCTTTCTT TCTTTTTTCT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT  
60

CTTTCTTTCT TTCTTTCTTT CTTTCCTTCT TTCTTTCTTT CTTTCTTTCT CCTTCCTTCC  
120

(2) INFORMATION FOR SEQ ID NO: 10:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 126 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:

TTTCTTTCTT TCTTTCTTTT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
60

TTCTTTCTTT CTTTCTTTCT TTCTTCCTTC CTCCTTTTCT TTCTTTCTCC TTCCTTCCTT  
120

CCTTCC  
126

(2) INFORMATION FOR SEQ ID NO: 11:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 130 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:

TTTCTTTCTT TCTTTCTTTT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
60

TTCTTTCTTT CTTTCTTTCT TTCTTTCTTC CTCCTTCCTT TTCTTTCTTT CTCCTTCCTT  
120

CCTTCCTTCC  
130

(2) INFORMATION FOR SEQ ID NO: 12:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 134 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:

TTTCTTTCTT TCTTTCTTTT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
60  
TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTCCTTCCT TCCTTTCTTT CTTTCTCCTT  
120  
CCTTCCTTCC TTCC  
134

(2) INFORMATION FOR SEQ ID NO: 13:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 170 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:

TTTCTTTCTT TCTTTCTTTT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTGTCT  
60  
GTCTGTCTGT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
120  
TTCTTCCTTC CTCCTTCCTT CTCCTTCCTT CCTTCCTTCC



170

(2) INFORMATION FOR SEQ ID NO: 14:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 174 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:

TTTCTTTCTT TCTTTCTTTT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTGTCT  
60

GTCTGTCTGT CTGTCTTTCT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
120

TTCTTTCTTC CTCCTTCCT TCCTTTCTTT CTTTCTCCTT CCTTCCTTCC TTCC  
174

(2) INFORMATION FOR SEQ ID NO: 15:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 178 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 15:

TTTCTTTCTT TCTTTCTTTT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
60

TTCTTTCTGT CTGTCTGTCT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
120

TTCTTTCTTT CTTTCTTCCT TCCTTCCTTT CTTTCTTTCT CCTTCCTTCC TTCCTTCC  
178

(2) INFORMATION FOR SEQ ID NO: 16:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 182 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 16:

TTTCTTTCTT TCTTTCTTTT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
60

TTCTGTCTGT CTGTCTGTCT GTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
120

TTCTTTCTTT CTTTCTTCCT TCCTTCCTTC CTTTCTTTCT TTCTCCTTCC TTCCTTCCTT  
180

CC

182

(2) INFORMATION FOR SEQ ID NO: 17:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 190 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 17:

TTTCTTTCTT TCTTTCTTTT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
60

TTCTTTCTTT CTGTCTGTCT GTCTGTCTGT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
120

TTCTTTCTTT CTTTCTTTCT TTCTTTCTTC CTCCTTCCT TTCTTTCTTT CTCCTTCCTT  
180

CCTTCCTTCC  
190

(2) INFORMATION FOR SEQ ID NO: 18:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 194 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 18:

TTTCTTTCTT TCTTTCTTTT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
60

TTCTTTCTTT CTTTCTTTCT GTCTGTCTGT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
120

TTCTTTCTTT CTTTCTTTCT TTCTTTCTTC CTCCTTCCT TCCTTTCTTT CTTTCTCCTT  
180

CCTTCCTTCC TTCC  
194

(2) INFORMATION FOR SEQ ID NO: 19:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 113 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 19:

TCTATCTATC TATCTATCTG TCTGTCTGTC TGTCTGTCTG TCTATCTATC TATATCTATC  
60

TATCTATCAT CTATCTATCC ATATCTATCT ATCTATCTAT CTATCTATCG TCT  
113

(2) INFORMATION FOR SEQ ID NO: 20:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 115 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 20:

TCTATCTATC TATCTATCTA TCTGTCTGTC TGTCTGTCTG TCTGTCTATC TATCTATCAT  
60

CTATCTATCC ATATCTATCT ATCTATCTAT CTATCTATCT ATCTATCTAT CGTCT  
115

(2) INFORMATION FOR SEQ ID NO: 21:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 119 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 21:

TCTATCTATC TATCTATCTA TCTGTCTGTC TGTCTGTCTG TCTGTCTATC TATCTATCAT  
60

CTATCTATCC ATATCTATCT ATCTATCTAT CTATCTATCT ATCTATCTAT CTATCGTCT  
119

(2) INFORMATION FOR SEQ ID NO: 22:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 121 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 22:

TCTATCTATC TATCTATCTG TCTGTCTGTC TGTCTGTCTG TCTATCTATC TATATCTATC  
60

TATCTATCAT CTATCTATCC ATATCTATCT ATCTATCTAT CTATCTATCT ATCTATCGTC  
120

T

121

(2) INFORMATION FOR SEQ ID NO: 23:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 125 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 23:

TCTATCTATC TATCTATCTA TCTGTCTGTC TGTCTGTCTG TCTATCTATC TATATCTATC  
60

TATCTATCAT CTATCTATCC ATATCTATCT ATCTATCTAT CTATCTATCT ATCTATCTAT  
120

CGTCT  
125

(2) INFORMATION FOR SEQ ID NO: 24:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 129 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 24:

TCTATCTATC TATCTATCTG TCTGTCTGTC TGTCTGTCTG TCTATCTATC TATATCTATC  
60

TATCTATCAT CTATCTATCC ATATCTATCT ATCTATCTAT CTATCTATCT ATCTATCTAT  
120

CTATCGTCT  
129

(2) INFORMATION FOR SEQ ID NO: 25:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 133 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 25:

TATCTATCAT CTATCTATCC ATATCTATCT ATCTATCTAT CTATCTATCT ATCTATCTAT  
120

(2) INFORMATION FOR SEQ ID NO: 26:

(ii) MOLECULE TYPE: DNA (genomic)

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 26:

TATCTATCTA TCATCTATCT ATCCATATCT ATCTATCTAT CTATCTATCT ATCTATCTAT  
120

(2) INFORMATION FOR SEQ ID NO: 27:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 141 base pairs

```
(ii) MOLECULE TYPE: DNA (genomic)
(iii) HYPOTHETICAL: NO
(iv) ANTI-SENSE: NO
(vi) ORIGINAL SOURCE:
      (A) ORGANISM: Homo sapiens
      (I) ORGANELLE: Mitochondrion
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TCTATCTATC TATCTATCTA TCTGTCTGTC TGTCTGTCTG TCTGTCTATC TATCTATATC  
60

TATCTATCTA TCATCTATCT ATCCATATCT ATCTATCTAT CTATCTATCT ATCTATCTAT  
120

CTATCTATCT ATCTATCGTC T  
141

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 143 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)
(iii) HYPOTHETICAL: NO
(iv) ANTI-SENSE: NO
(vi) ORIGINAL SOURCE:
      (A) ORGANISM: Homo sapiens
      (I) ORGANELLE: Mitochondrion
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TCTATCTATC TATCTATCTA TCTGTCTGTC TGTCTGTCTG TCTGTCTATC TATCTATATC  
60

TATCTATCTA TCATCTATCT ATCCATATCT ATCTATCTAT CTATCTATCT ATCTATCTAT  
120

CTATCTATCT ATATCTATCG TCT  
143



(2) INFORMATION FOR SEQ ID NO: 29:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 147 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 29:

TCTATCTATC TATCTATCTA TCTGTCTGTC TGTCTGTCTG TCTGTCTATC TATCTATATC  
60

TATCTATCTA TCATCTATCT ATCCATATCT ATCTATCTAT CTATCTATCT ATCTATCTAT  
120

CTATCTATCT ATCTATATCT ATCGTCT  
147

(2) INFORMATION FOR SEQ ID NO: 30:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 151 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 30:

TCTATCTATC TATCTATCTA TCTGTCTGTC TGTCTGTCTG TCTGTCTATC TATCTATATC  
60

TATCTATCTA TCATCTATCT ATCCATATCT ATCTATCTAT CTATCTATCT ATCTATCTAT  
120

CTATCTATCT ATCTATCTAT ATCTATCGTC T  
151

(2) INFORMATION FOR SEQ ID NO: 31:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 155 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 31:

TCTATCTATC TATCTATCTA TCTGTCTGTC TGTCTGTCTG TCTGTCTATC TATCTATATC  
60

TATCTATCTA TCATCTATCT ATCCATATCT ATCTATCTAT CTATCTATCT ATCTATCTAT  
120

CTATCTATCT ATCTATCTAT CTATATCTAT CGTCT  
155

(2) INFORMATION FOR SEQ ID NO: 32:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 157 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 32:

TCTATCTATC TATCTATCTA TCTATCTATC TATCTATCTA TCTGTCTGTC TGTCTGTCTG  
60

TCTATCTATC TATATCTATC TATCTATCAT CTATCTATCC ATATCTATCT ATCTATCTAT  
120

CTATCTATCT ATCTATCTAT CTATCTATCT ATCGTCT  
157

(2) INFORMATION FOR SEQ ID NO: 33:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 161 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 33:

TCTATCTATC TATCTATCTA TCTATCTATC TATCTATCTA TCTATCTGTC TGTCTGTCTG  
60

TCTGTCTATC TATCTATATC TATCTATCTA TCATCTATCT ATCCATATCT ATCTATCTAT  
120

CTATCTATCT ATCTATCTAT CTATCTATCT ATCTATCGTC T  
161

(2) INFORMATION FOR SEQ ID NO: 34:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 165 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 34:

TCTATCTATC TATCTATCTA TCTATCTATC TATCTATCTA TCTATCTGTC TGTCTGTCTG  
60

TCTGTCTATC TATCTATATC TATCTATCTA TCATCTATCT ATCCATATCT ATCTATCTAT  
120

CTATCTATCT ATCTATCTAT CTATCTATCT ATCTATCTAT CGTCT  
165

(2) INFORMATION FOR SEQ ID NO: 35:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 169 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 35:

TCTATCTATC TATCTATCTA TCTATCTATC TATCTATCTA TCTATCTATC TATCTGTCTG  
60

TCTGTCTGTC TGTCTATCTA TCTATATCTA TCTATCTATC ATCTATCTAT CCATATCTAT  
120

CTATCTATCT ATCTATCTAT CTATCTATCT ATCTATCTAT CTATCGTCT  
169

(2) INFORMATION FOR SEQ ID NO: 36:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 32 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 36:

AGAAAGAAAG AAAGAAAGAA AGAAAGAAAG AA

32